Mrs. Wilbur

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCRORY, CHIEF

MONTHLY NEWS LETTER

WASHINGTON, D.C., FEBRUARY 20, 1931

THE FIELD EMPLOYMENT OF A TYPIST OR STENOGRAPHER REQUIRES SPECIFIC PERMISSION IN THE BUREAU LETTER OF AUTHORIZATION. MOREOVER, THE CIVIL SERVICE COMMISSION RESERVES THE RIGHT TO SUPPLY LISTS OF ELIGIBLES FOR SUCH SERVICE IN THE FIELD. A FIELD EMPLOYEE, THEREFORE, WHOSE LETTER AUTHORIZES THE EMPLOYMENT OF TYPISTS OR STENOGRAPHERS, AND WHO HAS OCCASION TO DO SO, SHOULD TAKE UP THE MATTER WITH THE MANAGER, CIVIL SERVICE COMMISSION, IN THE DISTRICT IN WHICH HE IS LOCATED. THE MANAGER EITHER WILL SUPPLY NAMES OF ELIGIBLES OR, AS USUALLY IS THE CASE, WILL AUTHORIZE THE EMPLOYEE TO SELECT ONE HIMSELF WITHOUT REFERENCE TO ANY LIST. A COPY OF THE AUTHORIZATION ISSUED BY THE CIVIL SERVICE COMMISSION MUST THEN BE ATTACHED TO EACH PAY ROLL WHICH CONTAINS THE NAME OF THE TYPIST OR STENOGRAPHER EMPLOYED. A LIST OF THE FIELD HEADQUARTERS OF THE CIVIL SERVICE COMMISSION IS ENCLOSED HEREWITH.

MR. MCCRORY ATTENDED THE ANNUAL MEETING OF THE A.S.C.E. AT NEW YORK JANUARY 21 WHERE HE PRESENTED A PAPER ON THE WORK OF THE DIVISION IN THE FIELD OF CIVIL ENGINEERING.

GEO. R. BOYD, IN CONNECTION WITH THE PROJECT ON FARM LAND DEVELOPMENT, RECENTLY HELD CONFERENCES WITH OUR MINNESOTA COOPERATORS AT ST. PAUL, REGARDING THE PROCEDURE TO BE FOLLOWED ON A NUMBER OF FARMS IN ORDER TO PUT THEM IN BEST POSSIBLE SHAPE FOR ECONOMICAL OPERATION.

FROM ST. PAUL, MR. BOYD PROCEEDED TO QUINCY, ILL. WHERE HE CONFERRED WITH MR. SUTTON RELATIVE TO HIS WORK ON DRAINAGE PUMPING PLANTS, AND THENCE TO LOUISIANA IN CONNECTION WITH THE WORK FOR THE WAR DEPARTMENT ON THE APPRAISEMENT OF LAND INVOLVED IN THE MISSISSIPPI RIVER IMPROVEMENT.

MESSRS. RANDOLPH, CUMINGS AND LYLE ATTENDED THE JOINT MEETING OF THE SOUTHEASTERN SECTION OF THE A.S.A.E. AND THE SOUTHERN AGRICULTURAL WORKERS, AT ATLANTA, GA. MR. RANDOLPH GAVE A PAPER ON COTTON PRODUCTION MACHINERY, AND MR. CUMINGS ON SOME ENGINEERING PHASES OF FERTILIZER APPLICATION EXPERIMENTS. MR. MCCRORY ALSO TOOK THAT OPPORTUNITY TO VISIT ATLANTA TO DISCUSS WITH COLLEGE AND EXPERIMENT STATION OFFICIALS THE WORK CARRIED ON IN COOPERATION WITH THEIR INSTITUTIONS.

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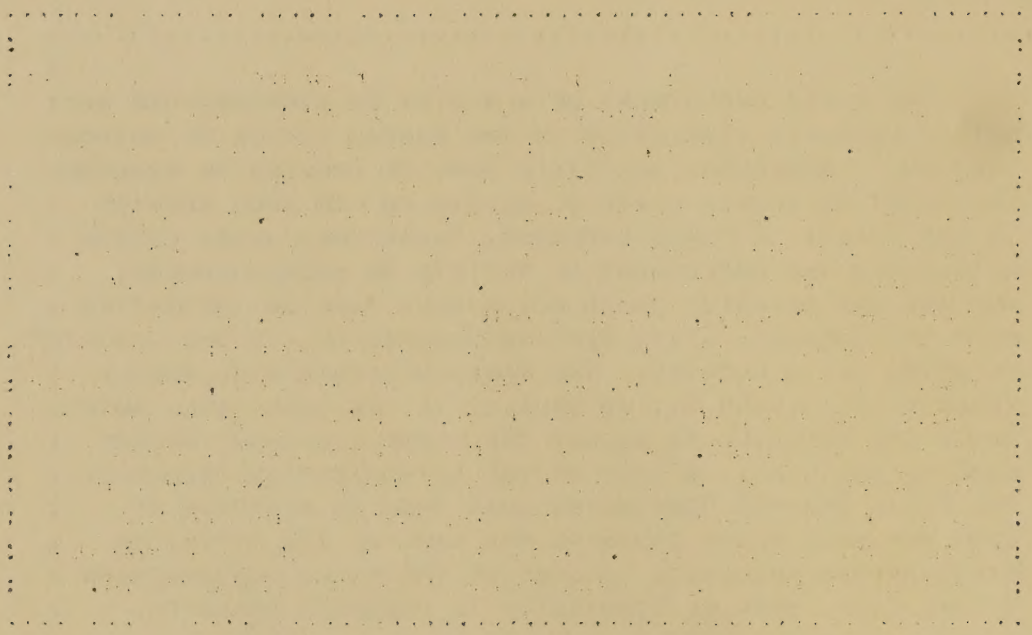

WHILE AT ATLANTA THE AGRICULTURAL ENGINEERS VISITED A TRUCK FARM WHICH IS ELECTRICALLY EQUIPPED. AMONG OTHER THINGS THE EQUIPMENT INCLUDED ELECTRICALLY HEATED HOT BEDS, REFRIGERATION EQUIPMENT FOR THE PRODUCTS OF THE FARM, PUMPS, CHURNS AND ELECTRIC COOKING RANGES.

FROM ATLANTA S. P. LYLE PROCEEDED TO ATHENS, GA., THENCE TO POINTS IN ALABAMA, ARKANSAS, OKLAHOMA, Miss., AND KANSAS; AND TO KANSAS CITY, MO., AMES, IOWA, AND COLUMBUS, OHIO FOR THE PURPOSE OF DISCUSSING AGRICULTURAL ENGINEERING EXTENSION WORK WITH THE AGRICULTURAL COLLEGE EXTENSION FORCES.

D. L. YARNELL, AT IOWA CITY, HAS COMPLETED EXPERIMENTS AND IS PREPARING A FINAL REPORT ON THE OBSTRUCTION TO FLOW CAUSED BY PILE TRESTLES. THIS STUDY HAS INCLUDED BOTH SINGLE AND DOUBLE TRACK TRESTLES AS WELL AS THE EFFECT OF VARIOUS POSITIONS OF THE PILE BENTS WITH RESPECT TO THE DIRECTION OF FLOW.

MENTION WAS MADE IN THE LAST ISSUE OF THE NEWS LETTER OF W. V. HUKILL'S EXPERIMENTS IN CONNECTION WITH THE SHIPPING OF PERISHABLE PRODUCTS ACROSS THE NORTHERN STATES DURING COLD WEATHER. SO FAR HIS TRIP HAS BEEN UNSUCCESSFUL, OWING TO THE PREVALENCE OF WARM WEATHER. AT THE PRESENT TIME MR. HUKILL IS STILL WAITING AT WENATCHEE, WASH., FOR WEATHER COLD ENOUGH FOR THE TESTS HE IS PLANNING TO MAKE.

H. C. MAUER COMPLETED SURVEYS IN GEORGIA IN CONNECTION WITH FARM LAND IMPROVEMENT AND HAS RETURNED TO WASHINGTON TO COMPLETE MAPS OF THE VARIOUS FARMS.

G. A. MITCHELL ADDRESSED AN ASSOCIATION OF CANNERS IN THE CHESAPEAKE BAY REGION, AT COLLEGE PARK, MD. ON THE FEASIBILITY OF IRRIGATION FOR CROPS INTENDED FOR CANNING.

M. C. BETTS AND OTHER MEMBERS OF THE STRUCTURES SECTION ARE PREPARING PLANS AND SPECIFICATIONS FOR A SMALL LABORATORY BUILDING AND SMALL OFFICE BUILDING FOR THE DIVISION OF SUGAR PLANT INVESTIGATIONS OF THE BUREAU OF PLANT INDUSTRY, TO BE ERECTED IN PORTO RICO; ALSO ILLUSTRATIONS SHOWING FLOOR PLANS OF CITY MILK PLANTS OF SEVERAL CAPACITIES FOR USE IN A BULLETIN BEING PREPARED BY THE BUREAU OF DAIRY INDUSTRY; DRAWINGS ARE BEING MADE FOR ANOTHER HEAD HOUSE FOR THE ARLINGTON FARM, AND FOR CATTLE CHUTES, HOLDING BINS AND POST-MORTEM ROOM FOR USE IN CONNECTION WITH THE ABATTOIR AT THE BELTSVILLE FARM.

A. H. SENNER IS SUPERVISING THE LAYING OF GAS MAINS AT THE DEPARTMENT FARM AT ARLINGTON, VA. THIS FARM WILL SOON BE SERVED WITH CITY GAS.

F. E. STAEBNER HAS RECENTLY INVESTIGATED THE POSSIBILITIES OF IRRIGATING A COMMERCIAL APPLE ORCHARD IN A MOUNTAINOUS SECTION OF WEST VIRGINIA AND HAS PREPARED A REPORT THEREON. THE TOPOGRAPHY VARIES FROM SLIGHTLY ROLLING TO STEEP HILL SIDES AND THE SOIL IS THIN, - 2 TO $2\frac{1}{2}$ FEET DEEP - AND LACKING IN HUMUS. IT HAS NOT BEEN CONSIDERED FEASIBLE TO GROW

COVER CROPS BECAUSE OF THE LIKELIHOOD OF DAMAGE TO THE TREES DUE TO DEFICIENCY OF RAINFALL.

THE POTOMAC RIVER PASSES WITHIN ABOUT 3/4 MILE OF THE ORCHARD BUT THE AVERAGE STATIC LIFT TO THE ORCHARD IS ABOUT 340 FEET. BECAUSE OF TOPOGRAPHIC AND SOIL CONDITIONS A SPRAY IRRIGATION SYSTEM WITH LARGE-COVERAGE NOZZLES HAS BEEN PLANNED WHICH MAY BE COMBINED WITH A STATIONARY INSECTICIDE SPRAY SYSTEM, BY USING 1 1/4 INCH LATERAL PIPE LINES. THIS SIZE IS LARGER THAN ORDINARILY WOULD BE USED FOR INSECTICIDE SPRAY AND SMALLER THAN WOULD BE ADVISABLE FOR IRRIGATION ALONE, BUT IS FEASIBLE FOR THE COMBINATION SYSTEM.

EIGHT INCH CAST-IRON PIPE IS RECOMMENDED FOR THE MAIN SUPPLY FROM THE RIVER TO THE ORCHARD, WITH SUBMAIN SIZES SUITABLY ADJUSTED THROUGH THE ORCHARD. WITH THE NECESSARY PRESSURE ON THE NOZZLES THE REQUIRED DYNAMIC HEAD WILL AVERAGE 740 FEET WHICH IS EXPECTED TO DELIVER 420 GALLONS PER MINUTE, EQUIVALENT TO A LITTLE MORE THAN 3 INCHES PER MONTH ON THE 203 ACRES OF ORCHARD.

A CENTRIFUGAL PUMP, DRIVEN BY A 150 H.P. MOTOR IS PLANNED. THE COMBINED SYSTEM, NOT INCLUDING COST OF SUPERVISION OR OF A PUMPING PLANT FOR INSECTICIDE SPRAY, IS ESTIMATED TO COST ABOUT $34,000 OR A LITTLE MORE THAN $166 PER ACRE. THE ESTIMATED ANNUAL COST IS $8,000, INCLUDING ELECTRICITY, LABOR, ATTENDANCE, INTEREST, SINKING FUND AND TAXES, OR ABOUT $39 PER ACRE.

L. M. WINSOR HAS BEEN SUCCEEDED BY VANEZ WILSON AS RESIDENT ENGINEER OF THE BEAR BAY MIGRATORY BIRD REFUGE, EFFECTIVE JANUARY 16. DUE TO MR. WINSOR HAVING BEEN SO LONG DIVORCED FROM HIS RESEARCH ACTIVITIES, IT WAS FELT ADVISABLE TO MAKE THE CHANGE IN THE BEAR BAY ENGINEERING PERSONNEL AND RETURN MR. WINSOR TO HIS REGULAR DUTIES IN COOPERATIVE WORK WITH THE UTAH AGRICULTURAL COLLEGE. HE IS THEREFORE NOW IN THE CAPACITY OF ADVISORY ENGINEER ON THE BEAR BAY WORK, MR. VANEZ WILSON BEING RESIDENT ENGINEER, WITH HEADQUARTERS AT BRIGHAM CITY, UTAH, AND MR. LESLIE BOWEN BEING ASSISTANT ENGINEER. OUR CONNECTION WITH THIS PROJECT WAS BEGUN MORE THAN TWO YEARS AGO, WHEN, UPON REQUEST OF THE BIOLOGICAL SURVEY, WE UNDERTOOK THE PREPARATION OF ENGINEERING PLANS LOOKING TO THE INUNDATION OF BETWEEN 25,000 AND 40,000 ACRES OF LAND AT THE MOUTH OF BEAR RIVER, UTAH. PLANS CALLED FOR CONSTRUCTION OF MAJOR RIVER CONTROL WORKS BUILT UPON ALLUVIAL DEPOSITS, THE CONSTRUCTION OF DIKES OUT OF THE ALLUVIAL MUD, TOGETHER WITH ASSOCIATED SPILLWAYS, ETC. THE WORK WAS LET IN TWO CONTRACTS. UNDER THE FIRST OF THESE THE RIVER CONTROL WORKS WERE FINISHED PRIOR TO JANUARY 31, 1930, AND THE REMAINDER OF THE WORK UNDER THIS CONTRACT IS TO BE COMPLETED BY JULY 31, 1931. UNDER THE SECOND CONTRACT THE WORK IS TO BE COMPLETED DECEMBER 1, 1931. UNTIL JANUARY 16, THIS YEAR, THE WORK WAS UNDER THE IMMEDIATE CHARGE OF MR. WINSOR, ASSISTED BY VANEZ WILSON AND LESLIE BOWEN.

M. R. LEWIS MADE A TRIP TO PORTLAND JANUARY 15 TO PRESENT TO THE OREGON STATE HIGHWAY COMMISSION, THE MATTER OF AN EXPERIMENTAL DRAINAGE WELL NEAR BAKER, OREGON. THIS WAS DONE UPON REQUEST OF MR. KLEIN, STATE HIGHWAY ENGINEER. ON THIS TRIP MR. LEWIS ALSO CONFERRED WITH

MAJOR O. O. KUENTZ, CORPS OF ENGINEERS, WHO IS IN CHARGE OF THE COLUMBIA RIVER STUDY FOR THE WAR DEPARTMENT, ON THE PROPER DUTY OF WATER TO BE ALLOTTED TO LANDS IN A PROPOSED IRRIGATION DEVELOPMENT BETWEEN ARLINGTON AND UMATILLA RAPIDS. THIS CONFERENCE WAS HELD UPON REQUEST OF MAJOR KUENTZ.

R. L. PARSHALL SUBMITTED A PROGRESS REPORT ON THE VORTEX SAND TRAP AND RIFFLE DEFLECTOR. STEPS ARE BEING TAKEN TO OBTAIN A PUBLIC PATENT ON THIS DEVICE. MR. PARSHALL ALSO SUBMITTED A DISCUSSION ON TESTS ON BROAD-CRESTED WEIRS, FOR PUBLICATION IN THE PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS.

MR. KARL HARRIS HAS BEEN APPOINTED AGENT, TO HAVE CHARGE OF THE CO-OPERATIVE DUTY OF WATER STUDIES BETWEEN THIS DIVISION AND THE ARIZONA AGRICULTURAL EXPERIMENT STATION. FOR THE IMMEDIATE FUTURE, INVESTIGATIONS WILL BE CONFINED VERY LARGELY TO THE SALT RIVER VALLEY AND POSSIBLY TO THE YUMA MESA. IT IS MORE THAN A DOZEN YEARS SINCE COOPERATIVE WORK WAS DISCONTINUED IN ARIZONA. AT THAT TIME THE WORK WAS IN COOPERATION WITH THE STATE ENGINEER'S OFFICE. MR. J. C. MARR, NOW LOCATED AT BOISE, WAS THE LAST REGULAR EMPLOYEE OF THE DIVISION TO HAVE HEADQUARTERS IN ARIZONA. HE WAS MOVED FROM ARIZONA IN 1920.

DUE TO THE RECENT STORMS IN SOUTHERN CALIFORNIA, OUR PROJECT ON WATER SPREADING FOR THE PURPOSE OF INDUCING UNDERGROUND STORAGE, IS IN FULL SWING. CONDITIONS ARE MORE FAVORABLE FOR RESEARCH STUDIES AT THE PRESENT TIME THAN DURING ANY PERIOD SINCE THIS PROJECT WAS UNDERTAKEN. PRACTICALLY ALL OF THE CITIES IN SOUTHERN CALIFORNIA IN THE VICINITY OF LOS ANGELES MAINTAIN EXTENSIVE ORGANIZATIONS FOR THE SPREADING OF FLOOD WATERS, AND THESE SPREADING GROUNDS AFFORD A GREAT LABORATORY FOR THE STUDY OF THIS METHOD OF WATER CONSERVATION.

THE BERKELEY OFFICE IS RECEIVING INQUIRIES FROM STATE HIGHWAY DEPARTMENTS, CONSULTING AND PRACTICING ENGINEERS HAVING TO DO WITH FOUNDATIONS, REGARDING THE ADAPTABILITY OF THE SOIL TUBE TO INVESTIGATE FOUNDATIONS. THEIR INQUIRIES HAVE BEEN INDUCED LARGELY BY THE ARTICLES THAT HAVE APPEARED IN SOIL SCIENCE, PUBLIC ROADS, AND OTHER PERIODICALS UNDER THE SOMEWHAT GENERAL HEADING OF SOIL SAMPLING WITH COMPRESSED AIR. A COMMERCIAL ORGANIZATION IN FLORIDA HAS HAD US PREPARE FOR THEM A DESCRIPTION OF THE EQUIPMENT NECESSARY TO SAMPLE CLAY BEDS 20 FEET OR MORE BELOW THE SURFACE. THE STATE ENGINEER'S OFFICE OF CALIFORNIA HAS BORROWED OUR COMPRESSED AIR EQUIPMENT ON TWO OCCASIONS FOR THE PURPOSE OF TESTING MATERIAL THROUGH WHICH IT WAS INTENDED TO CONSTRUCT CANALS.

ARCH WORK SUBMITTED A FIRST PROGRESS REPORT ON IRRIGATION AND SOIL MANAGEMENT PRACTICES NECESSARY TO SECURE ADEQUATE ABSORPTION AND RETENTION OF MOISTURE IN ROGUE RIVER VALLEY ORCHARDS OF JACKSON COUNTY, OREGON. THE REPORT PRESENTS THE DATA SECURED IN THE LAST 16 MONTHS IN THE MEDFORD AREA ON THE IRRIGATION OF PEARS. THE STUDIES DESCRIBED WERE CARRIED OUT ON COMMERCIAL ORCHARDS. BOTH THE VERY COARSE AND VERY FINE SOILS IN THE

Medford area cause trouble in irrigation - the former because of excessive leaching, and the resultant water-logging of lower lying lands, and the latter on account of the difficulty of securing adequate penetration of irrigation water. The data so far secured in the drainage survey of the Medford area show quite conclusively that water-logging of some areas is becoming serious. In many orchards on both classes of soil the growth of trees and the production of fruit is not satisfactory. Both irrigation and soil management practices offer opportunity for betterment.

Wells A. Hutchins prepared a report on The Rehabilitation of the Jordan Valley Irrigation District, Oregon. This was based on a cooperative study with the State Agricultural College and the State Engineer of Oregon. The report is probably the last of the series of reports our Division has submitted, dealing with the rehabilitation of Oregon districts for which the State has guaranteed payment of interest on construction bonds.

R. B. Gray returned to Toledo January 30 from a two-weeks' trip to the Middle West where he visited a number of agricultural experiment stations and farm equipment manufacturers relative to corn borer and other farm machinery problems and progress. He also spent February 4 at Columbus viewing the equipment on display during farmers' week and conferring with members of the Agricultural Engineering staff of Ohio State University. Later he spent several days in the Washington office in connection with his work.

R. M. Merrill and R. B. Gray attended a Centennial celebration of the McCormick Reaper at Blissfield, Mich., February 3, staged by the International Harvester Co.

O. K. Hedden left January 29 for the Antelope Valley in California to cooperate in experiments for controlling the pea aphis in alfalfa, with the field burner built at Toledo.

Wallace Ashby and A. H. Glaves have prepared the manuscript for a bulletin on plowing for corn borer control.

I. F. Reed recently sent the corrected copy of his manuscript on "Husker-Shredders in Corn Borer Control" to Washington for final approval.

William Webber has again joined the Toledo force for a temporary period to assist in the many problems of machine design for corn borer control.

Frank Irons has finished the construction of a four-row stalk shaver attachment for a two-row cultivator.

C. E. Ramser visited the Hays Soil Erosion Experimental Farm on January 15 to confer with Mr. Drake and inspect the installation of measuring apparatus. Mr. Drake has practically completed the installation of run-off and silt measuring devices on the terraces and plots of the Hays project.

E. E. Stewart has completed a topographic survey of an 800 acre watershed which drains across a portion of the Texas Agricultural Experiment Station lands at Spur, Texas. It is proposed to retain as much of the run-off from this watershed as possible on the station lands (120 acres) the water to be distributed over the land by means of level terraces to furnish an additional moisture supply for crops.

R. W. Baird made an inspection of brush and pole dams on the Tyler farm to determine the effects of late rains. He reports that all of the brush dams more than three feet high failed to hold satisfactorily and that the soil leaked through. He is of the opinion that brush dams should not be built higher than 3 feet and that by the proper filling with earth above pole dams to prevent leakage a pole dam 4 feet high will give satisfactory results.

H. S. Riesbol has completed the installation of two 8 by 16 foot silt boxes on terraces 1,500 feet long with grades of 4 and 6 inches per 100 feet on the Guthrie farm. He has also installed an 8 by 20 foot silt box on an unterraced, gullied area containing about 4 acres.

C. K. Shedd reports that the weather is mild for this time of year at Bethany, Mo., permitting outside field work. He has completed the installation of his first Parshall flume and silt box on the Bethany project.

R. A. Norton reports the completion of two 8 by 16 foot silt boxes built below 2-foot Parshall flumes on the Temple project. Some preliminary farm operations for the coming season have been started.

P. C. McGrew recently finished a survey of a small tract of terraced land near Waitsburg, Wash., to obtain information on methods employed in laying out terraces in that locality. This land has an average slope of about 14 per cent. Two terraces or rather hill side ditches were built, spaced 54 feet apart vertically and having maximum grades of over 6 feet per 100 feet. He reports that these ditches have stopped all gullying in the field and there does not appear to be excessive erosion in the terrace channel, the rainfall in that section being extremely light.

Attention is again called to our present library facilities. Mrs. Wilks, our Librarian, will be glad to furnish references or limited bibliographies on particular topics, and to arrange for forwarding books needed in official work.

The Library is anxious to complete its file of Engineering News Record. If anyone throughout the Division can supply the following issues, it will be very much appreciated.

v.87, no. 12, Sept. 22, 1921; v.88, no. 26, June 29, 1922; v.92, no. 9, Feb. 28, 1924; no. 10, Mar. 6, 1924; no. 14, Apr. 3, 1924; v.93, no. 23, Dec. 4, 1924; v. 101, no. 24, Dec. 13, 1928.

Issues containing Title page and index, v. 87, 1921 through v. 101, 1928, inclusive.

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The following book belonging to the Agricultural Engineering Library can not be located. Will anyone having information in regard to it please report it to the Library.

Kuhne, Georg.
Handbuch der Landmaschinentechnik. Berlin, Verlag von Julius Springer, 1930.

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PUBLIC ROADS
DIVISION OF AGRICULTURAL ENGINEERING

S. H. McCrory, Chief

MONTHLY NEWS LETTER

Washington, D. C., March 20, 1931.

The President on February 23, approved the Agricultural Appropriation Act for the fiscal year 1932 which, as announced in the NEWS LETTER of December 20, 1930, contains provision for a Bureau of Agricultural Engineering. No change has been made in the language of the bill from that quoted in the NEWS LETTER.

During the week beginning March 1, Mr. McCrory visited Stoneville, Miss. for conferences with reference to the cotton ginning studies, and Tallulah, La. in connection with our work on pest control.

On the evening of March 11 Mr. McCrory delivered a radio address over a coast-to-coast hook-up on the subject "Engineering in Modern Agriculture." This talk was one of a series being given by prominent engineers and scientists under the auspices of the Science Advisory Committee of the National Research Council.

The Advisory Committee of the College Section of the A.S.A.E. met in Washington March 9-11, at this office. It has been the custom for the last several years for this committee to meet here.

G. A. Cumings has left Washington to take up the season's work in certain Southern States that are cooperating with us in connection with an experimental study of application of fertilizers. Cotton will be the first crop dealt with but it is expected that other crops will be taken up one by one. The project is to continue over several years.

A. L. Sharp, formerly with R. B. Gray at Toledo, Ohio, has been assigned to assist Mr. Cumings on fertilizer distribution studies.

J. T. Bowen is preparing plans and specifications for a refrigeration plant for the new extensible building of the Department of Agriculture. This plant will consist of two 50-ton ammonia compressors, each driven by a 125 horsepower 3-phase, 6 cycle, 400 volt synchronous motor. He is also designing a rain-water filtration plant for the Iberia Livestock Experiment Farm at Jeanerette, La.

M. C. Betts is preparing plans for a small barn for the Bureau of Animal Industry at Beltsville, Md. and an eagle flight cage for the Washington Zoo.

The Structures Section has been called upon to design a number of buildings for this Bureau, in connection with the Federal Aid road work. These will consist of a building at Ogden, Utah, a group of

BUILDINGS AT VANCOUVER, WASH., AND A LARGE GROUP AT GOVERNORS ISLAND, SAN FRANCISCO. THESE BUILDINGS WILL BE USED FOR THE HOUSING OF THE FIELD EQUIPMENT AND MACHINERY. THE DISTRICT ADMINISTRATIVE OFFICE WILL ALSO BE HOUSED IN ONE OF THE BUILDINGS AT SAN FRANCISCO.

A. D. EDGAR HAS BEEN APPOINTED ASSOCIATE AGRICULTURAL ENGINEER FOR WORK IN THE STRUCTURES SECTION OF THIS DIVISION. MR. EDGAR WAS FORMERLY IN THE AGRICULTURAL EXTENSION SERVICE IN MICHIGAN.

F. E. STAEBNER'S MANUSCRIPT ON "TESTS ON SPRAY IRRIGATION EQUIPMENT" WILL BE PRESENTED FOR PUBLICATION AS A DEPARTMENT CIRCULAR.

W. V. HUKILL RETURNED TO WASHINGTON ABOUT MARCH 1, AFTER SEVERAL WEEKS WORK IN THE NORTHWEST RELATING TO THE TRANSPORTATION OF PERISHABLE PRODUCTS ACROSS THE NORTHERN STATES IN WINTER. THE ABNORMALLY WARM WEATHER, HOWEVER, WAS UNFAVORABLE FROM THE STANDPOINT OF THESE INVESTIGATIONS.

C. E. RAMSER WENT TO PULLMAN, WASHINGTON, EARLY IN MARCH TO COLLABORATE WITH P. C. MCGREW IN OUTLINING AND PLANNING THE ENGINEERING INVESTIGATIONS TO BE UNDERTAKEN IN 1931 ON THE PULLMAN SOIL EROSION FARM.

MR. RAMSER ATTENDED THE ANNUAL MEETING OF THE NATIONAL DRAINAGE, CONSERVATION AND FLOOD CONTROL CONGRESS AT DALLAS, TEXAS, ON FEBRUARY 18 TO 20 AND PRESENTED A PAPER, ILLUSTRATED BY SLIDES, ON EROSION AND SILTING OF STREAMS AND DRAINAGE CHANNELS. HE ALSO PRESENTED A PAPER PREPARED BY JOHN G. SUTTON ON RECENT DESIGNS OF PUMPING PLANTS FOR DRAINAGE DISTRICTS IN THE UPPER MISSISSIPPI VALLEY.

E. E. STEWART HAS BEEN PLACED IN CHARGE OF ENGINEERING WORK ON THE TEXAS BLACKLAND SOIL EROSION EXPERIMENT FARM NEAR TEMPLE, TEXAS.

R. A. NORTON HAS BEEN TRANSFERRED FROM TEMPLE, TEXAS TO CLARINDA, IOWA, WHERE HE WILL HAVE CHARGE OF THE ENGINEERING WORK ON THE SOIL EROSION EXPERIMENT FARM LOCATED NEAR CLARINDA. THE EXPERIMENTAL WORK AT THIS FARM WILL BE CARRIED ON BY THE U. S. DEPARTMENT OF AGRICULTURE IN COOPERATION WITH THE IOWA AGRICULTURAL EXPERIMENT STATION.

R. W. BAIRD HAS COMPLETED ALL TERRACING WORK ON THE TYLER FARM AND IS MAKING RAPID PROGRESS IN THE INSTALLATION OF PARSHALL MEASURING FLUMES AND SILT SAMPLING APPARATUS ON THE EXPERIMENTAL TERRACES.

H. S. RIESBOL REPORTS THE COMPLETION OF ALL RUN-OFF AND SILT MEASURING DEVICES ON THE GUTHRIE SOIL EROSION EXPERIMENT FARM.

R. R. DRAKE ATTENDED THE WESTERN TRACTOR AND POWER FARM EQUIPMENT SHOW AT WICHITA, KANS., ON FEBRUARY 25 AND 26 AND REPORTS A NUMBER OF IMPROVEMENTS IN CROP ROW TRACTORS AND A NEW CATERPILLAR TRACTOR THAT HAS 24 INCH CLEARANCE FOR CULTIVATING ROW CROPS.

IN COOPERATION WITH CERTAIN CITRUS-GROWING INTERESTS IN CALIFORNIA A STUDY OF ORCHARD HEATING AS A MEANS OF PREVENTING DAMAGE TO CITRUS TREES BY FROST, HAS BEEN UNDERTAKEN. A. H. SENNER IS NOW CONDUCTING PRELIMINARY EXPERIMENTS IN CONNECTION WITH THIS PROJECT ON ARLINGTON FARM. IT IS PLANNED TO CONTINUE THE WORK IN CALIFORNIA NEXT WINTER.

AS A RESULT OF RESEARCH STUDIES CARRIED ON AND DEMONSTRATION WORKS CONSTRUCTED UNDER THE IMMEDIATE DIRECTION OF L. M. WINSOR, THE DIVISION HAS BEEN REQUESTED BY THE UTAH STATE FLOOD CONTROL COMMISSION FOR ASSISTANCE IN DESIGNING DEBRIS CONTROL WORKS AS PROTECTION TO FARM AND

OTHER PROPERTY FROM DAMAGE RESULTING FROM CLOUD BURSTS. DURING 1930 DESTRUCTIVE STORMS OCCURRED SEVERAL TIMES, RESULTING IN SERIOUS PROPERTY LOSS AND INTERFERENCE WITH RAIL AND HIGHWAY TRAFFIC BETWEEN OGDEN AND SALT LAKE CITY FOR SEVERAL DAYS.

O. A. FARIS, WITH THE ASSISTANCE OF F. J. FRICKE, HAS COMPLETED COMPUTING AND CHECKING SILT DATA PERTAINING TO TEXAS STREAMS FOR THE PERIOD 1924-1930. A FINAL ANALYSIS OF THE DATA COLLECTED IS NOW IN PROGRESS AND THE RESULTS WILL BE OF GREAT VALUE IN EXTENDING THE PROBABLE LIFE OF RESERVOIRS BUILT IN THE CENTRAL PART OF THE STATE WHERE MOST OF THE STUDIES HAVE BEEN MADE. THE FIELD WORK WILL BE TRANSFERRED TO WESTERN TEXAS IN ADDITIONAL OBSERVATIONS. MR. FARIS REPORTS THAT ALTHOUGH RAINFALL DURING FEBRUARY IN CENTRAL TEXAS WAS PRACTICALLY DOUBLE NORMAL, OWING TO THE GENTLENESS OF THE PRECIPITATION AND THE FACT THAT IT WAS QUITE EVENLY DISTRIBUTED THROUGHOUT THE MONTH, STREAM STAGES WERE MODERATE AND THE SILT LOAD WAS LIGHT IN COMPARISON WITH THE RUNOFF. THIS BEARS OUT AN OPINION HE HAS HAD FOR SOME TIME THAT THE GREATER PART OF THE SILT LOAD OF A STREAM IS MADE UP IN ADVANCE BY THE PROCESS OF WEATHERING. THE FIRST WATER WHICH RUNS OFF, FOLLOWING A DRY PERIOD, PICKS UP THE WEATHERED MATERIAL AND CARRIES IT INTO THE STREAMS. RUN-OFF FROM THE WET AREA, FOLLOWING THE FIRST FLUSHING MUST DEPEND UPON EROSION FOR ITS SILT LOAD, AND SINCE THE PORTION OF A LARGE DRAINAGE BASIN WHERE EXCESSIVE EROSION TAKES PLACE IS SMALL IN COMPARISON TO THE ENTIRE AREA, THE SILT LOAD IS COMPARATIVELY LIGHT.

R. L. PARSHALL REPORTS THAT CONSTRUCTION WORK IS NOW BEING CARRIED ON IN THE BUILDING OF A 20-FOOT REINFORCED CONCRETE PARSHALL MEASURING FLUME ON THE BIJOU CANAL TWENTY MILES EAST OF GREELEY ON THE SOUTH PLATTE RIVER. IT IS EXPECTED THAT THIS STRUCTURE WILL BE FULLY EQUIPPED WITH THE FLUSHING DEVICE, TOGETHER WITH THE NEW TYPE DOUBLE-HEAD INDICATING INSTRUMENT. THIS WILL BE THE FIRST LARGE FLUME IN THE SOUTH PLATTE VALLEY. MR. PARSHALL IS NOW WORKING ON THE DEVELOPMENT OF A GENERAL FORMULA WHICH WILL GIVE THE TOTAL LOSS IN HEAD THROUGH THESE LARGE FLUMES, THIS BEING A FUNCTION OF THE DISCHARGE AND DEGREE OF SUBMERGENCE AND SIZE OF FLUME.

CARL ROHWER REPORTS THAT THE RESULTS OF THE OBSERVATIONS ON THE EFFECT OF COMMON SALT ON THE EVAPORATION FROM FREE WATER SURFACES HAVE BEEN COMPUTED AND SUMMARIZED. THEY SHOW THAT SMALL PERCENTAGES OF SALT HAVE COMPARATIVELY SLIGHT EFFECT ON THE EVAPORATION. WHEN THE PERCENTAGE OF SALT WAS INCREASED TO 10 AND 20 PER CENT, THERE WAS A DEFINITE REDUCTION IN THE EVAPORATION, AND THE REDUCTION FOR THE 20 PER CENT SOLUTION WAS PROPORTIONATELY MUCH GREATER THAN FOR THE 10 PER CENT SOLUTION.

M. R. LEWIS PREPARED A PAPER ON "FLOW OF GROUND WATER AS APPLIED TO DRAINAGE WELLS" FOR PUBLICATION IN THE PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS.

ARCH WORK GAVE A TALK BEFORE THE BANKERS ASSOCIATION OF SOUTHERN OREGON FEBRUARY 24 ON THE SUBJECT "THE NATURE OF THE DRAINAGE PROBLEM IN THE BEAR CREEK VALLEY."

During February, Leslie Bowen and Karl Harris spent a few days in southern California in preliminary studies of methods employed and equipment used in our duty of water studies. Mr. Harris will assume charge of our cooperative work in the Salt River Valley in cooperation with the Arizona Agricultural Experiment Station. Mr. Bowen, who has been employed in connection with construction of Bear Bay Migratory Bird Refuge, will return to that work until July 1, after which date he will be employed in cooperative duty of water work with the Bureau of Plant Industry.

On March 24 and again early in April, the Berkeley office is to appear upon the N.B.C. agricultural radio broadcast. The subjects chosen are "The Storage of Water Underground," and "The Relation of Rainfall to Irrigation." A. T. Mitchelson has been assigned the first subject.

R. B. Gray returned to Toledo February 20 after spending several days' at the Washington office and one day at a conference at the European corn borer control headquarters, South Norwalk, Conn. He also spent February 24 in Chicago in connection with corn borer control machinery matters.

R. M. Merrill and family left March 6 to take up residence at South Norwalk, Conn. There Mr. Merrill will have charge of the Agricultural Engineering phases of corn borer control in the New England area and cooperate with the Plant Quarantine and Control Administration.

Frank Irons left March 6 also to take up his duties on the corn borer control project in New England with headquarters at South Norwalk.

Two farm mechanics, Messrs. Barlow and Goyings, left on the same date for South Norwalk where they will assist on the New England corn borer control project.

V. D. Young, Assistant agricultural Engineer, reported for duty at Toledo March 16. After a few days here he will proceed to South Norwalk.

Wallace Ashby returned to Toledo March 9 after a week's trip to Auburn, Ala. where he discussed with Messrs. Nichols and Randolph and others, matters pertaining to tillage and soil dynamics.

Review of new books by Mrs. Wilks, Librarian:

Book of rural life. Chicago, Bellows-Durham Company, 1925. 10 v. Deals with agriculture, Home Economics, Education, Health, Science, Civics and Business and their allied subjects.

Farm Implement News Co., Chicago, Ill. Tractor field book with power farm equipment specifications. Chicago, 1930. 224 p. A compilation of facts and information of value to those who make, sell or use equipment used in power farming.

Federal Board for Vocational Education. Light frame house construction. Washington, D. C. 1930. 216 p. To be used mainly as a source of technical information relating to type jobs. Contains no detailed instructions regarding the use of tools.

HOWELL, A. C.
HANDBOOK FOR ENGLISH IN ENGINEERING USAGE. NEW YORK, JOHN WILEY AND SONS, INC., 1930. 308 P. "WRITTEN TO SERVE AS A GUIDE FOR THE ENGINEER WHO WISHES TO MAKE HIS ENGLISH CLEAR, ACCURATE, AND CONCISE."

HUTCHINSON, WILLIAM T.
CYRUS HALL MCCORMICK. N. Y., CENTURY CO., 1930. 493 P.

LAMPEN, DOROTHY
ECONOMIC AND SOCIAL ASPECTS OF FEDERAL RECLAMATION. BALTIMORE, JOHNS HOPKINS PRESS, 1930. 125 P. (JOHNS HOPKINS UNIVERSITY STUDIES IN HISTORICAL AND POLITICAL SCIENCE. SERIES 48 NO. 1.) "TRACES THE EVOLUTION OF IRRIGATION LAWS AND POLICIES SINCE THE ORIGINAL FEDERAL RECLAMATION ACT WAS PASSED IN 1902."

PUNJAB ENGINEERING CONGRESS.
MINUTES OF PROCEEDINGS. LAHORE, 1930. 212 P.

SHARP, M.A. AND SHARP, W.M.
PRINCIPLES OF FARM MECHANICS. NEW YORK. JOHN WILEY AND SONS, INC., 1930. 269 P. TEXTBOOK WRITTEN TO MAKE SHOP TEACHING EASE AS WELL AS EFFICIENT.

SMITH, C. B. AND WILSON, M.C.
AGRICULTURAL EXTENSION SYSTEM OF THE UNITED STATES. NEW YORK, JOHN WILEY AND SONS, INC., 1930. 402 P. "DESIGNED TO BE INFORMATIVE AND INSTRUCTIVE TO EXTENSION WORKERS IN AGRICULTURE AND HOME ECONOMICS NOW IN THE FIELD, TO STUDENTS IN SCHOOLS AND COLLEGES PREPARING FOR EXTENSION WORK AND TO THAT HOST OF MEN AND WOMEN THROUGHOUT THE WORLD WHO DESIRE TO KEEP INFORMED ON SIG- NIFICANT MATTERS AFFECTING RURAL PROGRESS.